SECTION 9 – OP QUERY

OVERVIEW

Op Query is related to the Scroll program. It is used to query operator messages that were previously displayed by scroll. The various programs collectively produce a large number of operator messages. Due to the limited size of the viewing screen, these messages soon scroll off of the screen. Op Query is a tool to help the user who needs to re-examine these messages.

The Scroll program responds to a minimum threshold setting which is parameter that is set in the database and read upon startup. If the operator (event) priority is set below this threshold, the message is not displayed. The Op Query will allow programmers, or other users, to examine these low level messages.

FUNCTIONS PROVIDED

Op Query allows the user to search for operator messages:

- within a specified operator (event) priority range
- within a specified program priority range (optional)
- within a specified time period
- for all programs, one program, or a combination of programs
- for a specific message range
- for a specific program name
- for specific message text

(*Note*: This program displays the database field "operator priority" as OP. The scroll program names the same field "event priority".)

When first started, the screen appears as is shown in Figure 9-1. Default settings selections are:

- --All programs
- --program priority is not selected
- -operator priority range is from 20 to 49 inclusive
- -the end time is current time
- -the start time is two hours prior to current time
- -specific options are not selected

Search is started by clicking the "SEARCH" command button. The default criteria will produce a rather lengthy list of messages. It is recommended that the operator priority and/or time range be reduced before starting the search.

The resultant display is very similar to that used by Scroll, except that the complete text of the operator message cannot be viewed in a separate window. Both the vertical and horizontal spacing (row height and column width) can be altered using click and drag methods in order to make the full text visible.



Figure 9-1 – Op Query Initial Screen showing default settings

Op Query is a useful tool for supervisors, should they need to identify who responded to a particular problem and further analyze the problem. The report printout includes the time and identification of persons who acknowledged an alarm, as shown in Figure 9-3.

By clicking on the check box under the "Msg Range" frame box, one can search by message number range. To find a specific message, click the "SubSystem" name, click the MsgRange check box, enter the message number into both MsgRange boxes, then click SEARCH. Note that a time bound is required for all operator message searches.

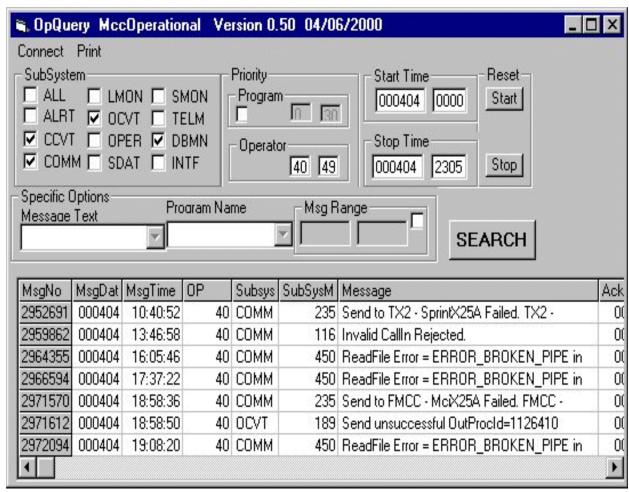


Figure 9-2 – Op Query by Op Priority and Specific Sub System

An example of a search by specific sub-system is shown in Figure 9-2. This search looks for all high priority, communication-related alarms that required operator action during a 23 hour period on 4 April. Only Communication Converter (CCVT), Output Communication Converter (OCVT) and Database Monitor sub-systems were searched. The search returned 7 operator messages, as shown in Figure 9-2. (Note: Fig 9-3 is a continuation of this report.)

One can also search by Program name as a specific option. This searches for a specific name as reported under the field labelled "Program". A complete list of all program names that report operator messages is not presently available.

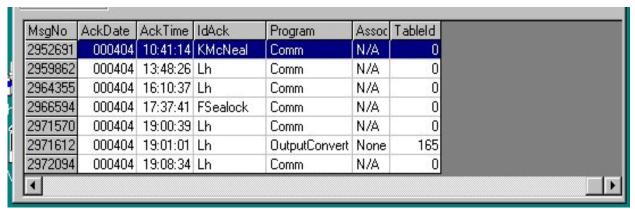


Figure 9-3 -- Op Query, message acknowledgement fields

The "Message Text" option is reserved for future implementation. This feature is intended as a shortcut that can be used to find commonly occurring events.

SECTION 10 – MORNING BRIEFING

OVERVIEW

NOAA senior staff are briefed each workday on USMCC operations. The briefing is saved daily as a WordPerfect document. MBrief, the Morning Briefing user interface, is a tool to assist in the preparation of this briefing. It consists of four screens:

- 1. MornBrief is the Main screen that is used to select sub-actions
- 2. Select Date is a Calendar that determines time bounds
- 3. View activation counters is a screen that tallies briefing information
- 4. View Sites is a detailed list of site data that is used for the briefing

Each of these screens is explained in the following sections.

MBRIEF MAIN SCREEN



Figure 10-1 – Morning Briefing Main Screen

When the MBrief program is started, the above screen (Fig 10-1) is displayed. This screen provides access to three sub-activites as indicated by the command buttons. Each button brings up a new screen. When each sub-screen is closed, the user is returned to this main screen. A typical sequence for preparing morning briefing is to 1) select the date, 2) review Site data, then 3) view/adjust the activation counters. It is important that this sequence be followed due to the interaction between these sub-programs.

SELECT DATE

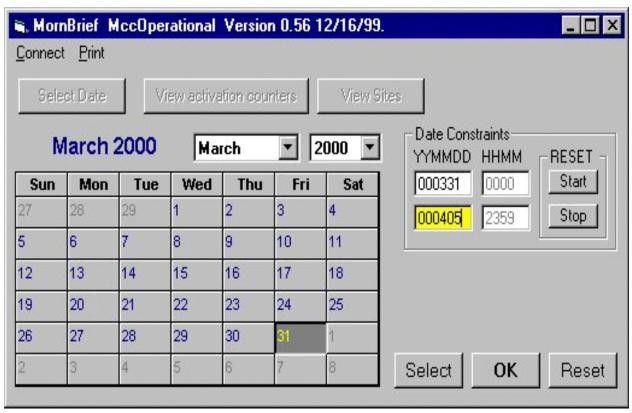


Figure 10-2 – Mbrief, Select Date screen

When the "Select Date" command button is pressed on the main screen, the calendar shown in Figure 10-2 appears. Note that the title bar indicates that the Operational Database is being used. Although this program can be used with the Test and other databases, the operational database must be used for official briefings.

Morning briefing normally involves activities that start and end at midnight Greenwich Time (UTC) on the previous day. Thus, a briefing that is presented on 31 March would span the period 0000 UTC to 2359 UTC on 30 March. If the briefing period spans a weekend, for example a briefing presented on 3 April, it would cover the period 0000 UTC 31 March through 2359 UTC 02 April inclusive. Similar adjustments are needed for holidays.

The first action is to click the start date on the calendar. In the example shown in Figure 10-2, it is 31 March. Note that the end date (highlighted in yellow) is not the desired data. Click inside the window and set the desired date. Next, click the "Select" command button to tell the program to use this time period. Click the OK button to return to the main menu screen. The date selection determines what data is loaded into the Sites and Counters screens.

When the user clicks on the "Select" command button, the start and end date information is read into the program, then this command button is "grayed out" (not usable). If an entry error was made, use the "Reset" command button to cancel entries and to re-activate the "Select" command button. The "Reset" command button loads in screen default settings (returns the user to the current calendar date). The time bound "Reset" buttons also reset the date to current date. Hours and minutes cannot be adjusted. Month and Year can be adjusted using combo box While a past month and/or year selection would not be used to prepare a morning briefing, it is useful for using the "View Site" screen to examine activity on a previous date.

VIEW SITES

406 MHz Sites are automatically added to the Morning Briefing when they close. The Site screen is shown in Figure 10-3 and provides a comprehensive list of information concerning the each site. Basic site information is loaded into the briefing form from the SQL database. The Duty Controller adds additional information based on feedback from RCCs such as general location, State, Activation Reason, and Feedback comments. These text boxes are highlighted in yellow on the screen.

NOAA management is interested in all incidents that occur in USA SRRs/AOR and incidents that involve USA registered beacons. Incidents that are not of interest are removed from the briefing. The "Remove from the Morning Brief" command button removes a record from display. This button is located immediately below the title and menu bars in the upper left hand corner of the screen. The "BACK" command button (beside it) returns the user to the Mbrief main menu. *Note: This is the only way that a user can exit the Sites screen*.

The Site Browser frame box determines what type of sites are displayed. A record count is displayed in the text boxes immediately below the frame label. In Figure 10-3, this information shown is the first of 8 sites that are available for display. The check boxes to the right determine what is displayed. In this example, the user wishes to review both completed and incomplete sites. All sites are incomplete when the USMCC closes them. Their status is changed by the Duty Controller based upon feedback obtained from RCCs. When preparing the briefing, the "complete" is always checked. One would also need display "incomplete" sites. The user may wish to view "Removed" sites. Clicking "All" places a check in all three boxes. The "Previous" and "Next" command buttons are used to advance forwards/backwards through site records. The "Re-Fresh" command button must be used to update the screen if changes are made in the check boxes that are inside this frame.

In the "Commands" frame box, the "Update" command button writes changes to the database, "Cancel" remove any changes made on the screen. The "Label site as complete" places a tag in this record to indicate that data collection and update has been completed for the site.

Note: The Cancel button has no effect after a site has been labelled as complete.

Page 10-7

MBrief Sites MccOperational	
Connect Print	
BACK Remove from the Mo	Be-Flesh
Beacon Id: 9F08A70134	IIPHATE
Alert Site Number: 21879 ▼	Previous Neut F P
Mid Country: MALTA	Previous Next Removed Label site as Complete
General Location: ATLANTIC O	CEAN State Records for
MM DD hhmm	Actual Location Deg Min Dir. 0331 0000
Open time: 03 30 1304	Select to use: Lat 29 14 N Thru
Close time: 03 31 0026	Actual
LEO unlocated: 03 30 1257	COMPLETE
LEO Rovd at USMCC: 03 30 1304	SMC FMCC ▼ COMPLETE
Located First Alert TCA: 03 30 1257	Sat Detected Received Source
FA Rovd at USMCC: 03 30 1304	
First Comp TCA:	
# of passes/Duration 2 0.4	HRS. Pon Tupos MARITIME Registration Changes
Position Conflict Passes 0 Ac	Bcn Type: MARITIME Registration Changes ctivation Reason: ND-Unknown-Investigated-Inconclusive
Registration Information:	Reg data
Vessel/Aircraft Name:	Reg Date: Bon Manufacturer Model used?:
Not registered.	
Feedback comments	
	ED THEY RECEIVED INFORMATION FROM RCC MALTA STATING

Figure 10-3 -Mbrief View Sites screen

Immediately below the Commands frame are three text boxes. The first two boxes indicate the period that is spanned for the records being displayed. In Fig 10-3, only records for 31 March are called up on this report. The third box indicates that the status of the current record being view is 'COMPLETE'. If the site information is "incomplete" this text box will be highlighted in green

Information that is loaded automatically into this screen appears on the left hand side of the form. An explanation of these terms is covered under Alert Site Query. If the beacon is listed in the USMCC Registration Database, this information is automatically loaded into the "Registration Information" frame (situated immediately above Feedback comments at the bottom of the form). If feedback information indicates that registration information is incorrect, site information can be emailed to the database registration clerk by clicking on the "Registration Change" command button on the right hand side of the screen (located below the GOES frame).

NOAA management is particularly interested in the reason a 406 beacon was activated. Therefore, an entry must be made in the "Activation Reason" combo box in order for the site to be considered to be complete. Clicking on the down arrow will bring up a list of reasons for activation. Management is also interested in whether or not registration information was used by US RCCs for US registered beacons. The "Reg data used" command box in the Registration Information frame is used to record this information. This is a toggle box. Clicking on it will cycle through "YES", "NO" and blank choices. Feedback comments (text entered by controller) are added to the IHDB by locking the report (Fig. 10-4). Where applicable, controllers may also enter the State where the incident occurred. This information is used internally in the USA.

Ambiguity was not resolved in this case. However, the information provided by FMCC was sufficient to resolve ambiguity. The "Actual Location" frame was updated accordingly. Clicking on the down arrow allows the user to select the composite location or, where ambiguity is not resolved by the satellite, either the "A" or "B" location.

Three new terms are used on this form. FA is an abbreviation for "First Alert". Position Conflict Passes refers to the number of passes that involved large location errors (see Section 11). SMC indicates the MCC/RCC SRR associated with the location.

Remember: Click "UPDATE" after making changes, and

Click "BACK" to exit this form

<u>Note</u>: Sites may be accessed directly by number vs. using the browser. Click on the down arrow on the Site ID combo box. A list of sites closed during the period will appear.

VIEW ACTIVATION COUNTERS

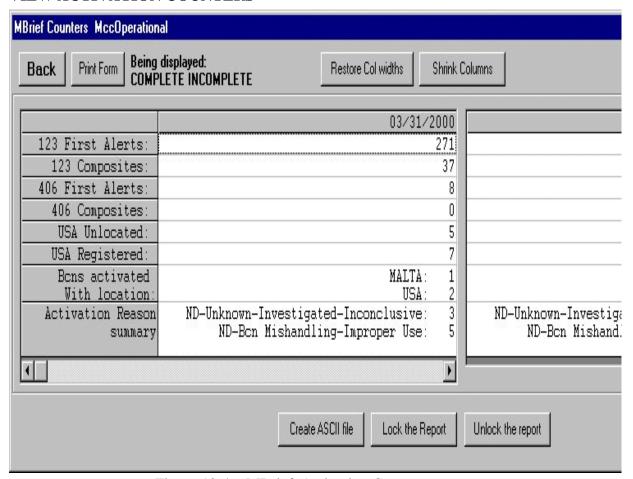


Figure 10-4 – MBrief, Activation Counters screen

Figure 10-4 shows the activation counters screen. The screen on the right (not visible) contains a summary of data on the left. A large, high resolution monitor is needed to view the entire screen. The horizontal scroll bar is used where several days data are being examined. This data appears in the left window, with the date being viewed listed at the top of the column. There is one column allotted per day (where a long period was selected) and the scroll bar tabs you from one column (day) to the next.

The first row is taken from the 121 Site summary table. The subsequent entries (406 MHz beacons) is taken from the Sites table mentioned above. Note that both 1) the total number of 406 sites (8+0), and 2) the total number within the "Activation Reason summary" section matches the number of sites in reported Figure 10-3. Also, the breakdown of "5 US Unlocated" + "2 US Located" + "1 Malta Located" matches the total of 8 sites. Users who are preparing the morning briefing should perform these checks to ensure that all information has been correctly recorded.

The above information is transferred to the WordPerfect version of the daily briefing. The

"Create ASCII file" command button outputs a summary above data to a WordPerfect file. Selected terminals (persons who do the briefing) are provided with a WordPerfect macro that automatically inserts this file into the daily briefing.

The "Lock Report" command button places a write protection on the daily briefing so that the data cannot be changed. It is recommended that this action be postponed until after the briefing in the event that further updates or changes are needed (or additional feedback from an RCC). Locking the report will require a password. If the report was previously locked, it still can be "unlocked" and corrected after the fact. This action is also password protected.

Miscellaneous Notes:

The WordPerfect version of the morning briefing is stored under:

\usmcc\Vol1\OpActive\Mbrief\~

Files ordered by year-month-day. Thus, the filename for the morning briefing given on 31 March, 2000 would be labelled as "000331.SUM", and would report results for the previous day (30 March).

Each day, the database registration clerk e-mails a count of changes made to the 406 RDB. The Duty Controller adds this information to the WordPerfect briefing.

[Intentionally left blank]

SECTION 11 – LARGE LOCATION ERRORS

OVERVIEW

On occasion, the USMCC receives a location that is significantly different from other locations that were received for the same beacon event. In other instances, the locations may differ significantly on subsequent but consecutive beacon events. Such anomalies are termed to be Large Location Errors (LLEs). The presence of an LLE causes a Distance Separation alert to be created, which involves special handling procedures. LLEs only apply to 406 MHz beacon locations. C/S A.001 defines "Distance Separation" as a location that differs by more than 50 kilometres from another location for the same beacon event. LLEs are defined as distance separations greater than 120 kilometres.

LLEs are monitored and investigated in order to identify the cause and to recommend remedial action. Origins of the LLE could be due to beacon malfunctions, satellite malfunctions, the presence of interfering signals, of LUT malfunctions. A staff analyst is assigned the task of investigating and reporting LLEs. To assist in this task, the Large Location Error operator interface screen was developed. This screen is presented in Figure 11-1. (*Note: due to the large size of this form, it is fully visible only on a high resolution monitor; the remarks text box at the bottom portion of this form was truncated in Fig 11-1.*)

FUNCTIONS PROVIDED

When the USMCC flags solutions for distance separation (also referred to as a "blown" solution). The LLE interface examines sites that are closed each day and identifies 406 MHz sites that contain blown solutions with location errors greater than 120 kms. The interface screen is structured in a similar manner to the Morning Briefing screen. It provides:

- LLE Site information and identification
- Encoded beacon information
- Number of passes in the site
- Number of blown solutions in the site
- a listing of solution data
- a date selection, and
- a view selection.

A several other text boxes and command buttons are provided to assist the analyst in his/her work. Items requiring completion are highlighted in yellow.

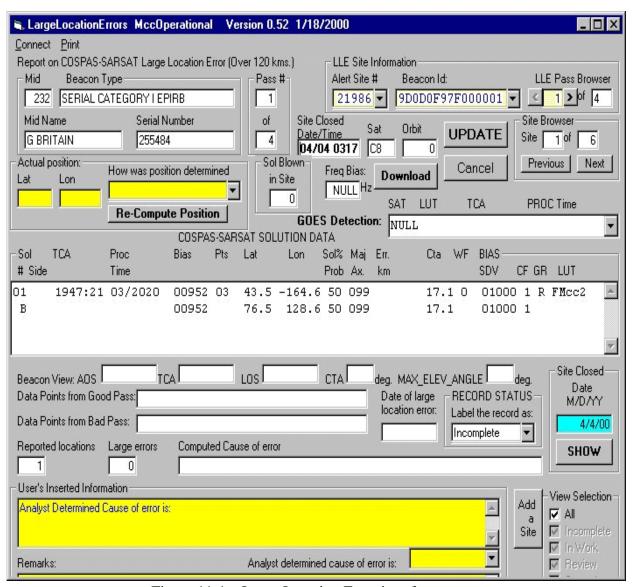


Figure 11-1 – Large Location Error interface screen

INTERFACE SCREEN DESCRIPTION

<u>SHOW</u>. This command button is located on the right hand edge of the screen, towards the bottom of the form. It is inside a frame labelled "Site Closed". When this program is started, the form examines sites that were closed on the current date. This date is displayed in text box with a light blue background. The user may click on the box and change the date. After the desired date is entered, click on the "SHOW" command button to retrieve the data.

<u>LLE Site Information</u>. This frame is located at the top right hand side of the screen. It contains the current site number, the Beacon ID (15 hexadecimal format) and an "LLE Pass Browser" combo button that allows the user to select which satellite pass to display within the current site. The Alert Site number may be changed by clicking the down arrow in the Alert Site # combo box and selecting the desired site number. It may also be changed in the Site Browser frame that is located immediately below this frame. The LLE Pass Browser button also indicates the number of passes within the selected site.

<u>Site Browser</u>. This frame lists the number of sites that contain LLEs for selected site closure date. If one does not remember the number of the blown site, one can move through these sites by clicking on the "Previous" and "Next" command buttons. The text box located above the "Next" command button indicates the total number of site for that date that contain large location errors.

<u>Pass #.</u> This frame is linked to the LLE Pass Browser combo button. It shows the identification of the current pass and the total number of passes for the selected Alert Site. The satellite identification is given in the "Sat." text box directly beneath the Alert Site # combo box. The orbit number (USA LUTs only) is listed in the box beside it.

Beacon Information. This frame, located in the upper left hand corner, does not have a frame label. It decodes the beacon and displays the MID, MID Name, Beacon Type and Serial Number.

GOES Detection: GeoSar data is entered in this text box, if available. The down arrow on the right hand side of this box allows the used to view additional entries, if provided.

<u>COSPAS-SARSAT SOLUTION DATA</u>. A list of solutions that were reported for the selected pass (same beacon event) are displayed in this text box. A vertical scroll bar is provided on the right hand side of the screen if entries exceed available display space.

<u>Sol Blown in Site</u>. This frame reports the number of blown solutions. Although the label indicates that the number represents the site total, it actually reflects only the displayed pass.

Required Fields. The following fields should be completed by the user:

- Actual Position, Latitude/Longitude
- How position was determined (combo list box)
- Users Inserted Information
- Analyst determined cause of problem (combo box) and
- Remarks

RECORD STATUS. This frame is located to the left of the "SHOW" command button. When first reported, the record is labelled as incomplete. The status may be modified as work progresses by clicking on the down arrow in this combo box.

<u>View Selection</u>. This selection allows the user to view "All" LLEs for the selected date, only "Incomplete" records, those "In Work" or those pending "Review".

Add a Site. The analyst may add another site to the current list.

This interface is still under development/testing.
Updates will be added in a future release.

SECTION 12 – CONFIGURATION SETTINGS

OVERVIEW

The USMCC uses a multitude of parameters as part of its processing activity. Those parameters that are modified by the Duty Controller are changed via operator interface screens. Changes to configuration are recorded and available for viewing. ComSiteDisplay and AlertSiteQuery are the main places where changes are made.

Many other processing parameters are stored in database tables. At the present time, changes are made by technical support staff using Microsoft Access or Microsoft Enterprise Manager. The main shortfall with this approach is that a history of past settings and time and reason for the change is not available online.

It is intended, as a future enhancement, that one or more interface screens will be developed to in order to provide an online historical record of configuration changes. Additional information will be included in this section when as it becomes available.

(Intentionally left blank)

SECTION 13 – INTERFERENCE MONITORING

OVERVIEW

The USMCC uses a combination of graphics displays and Doppler signal processing to identify interference. This software is presently under development. Details will be added to this section at a later date.

[Intentionally left blank]

SECTION 14 – OTHER

OVERVIEW

The USMCC utilizes a number of support programs that were carried forward from earlier versions of the system. This section provides a brief description of them.

The startup and shutdown of the individual USMCC processes is documented in Controller Standard Operating Procedures (SOPs).

IHDB

The Incident History Database (IHDB) is a historical record of distress beacon sites in dBase III format. When feedback forms are received from RCCs, this information is added to the database files. A more comprehensive description of the database and procedures to update it may be found in the IHDB SOPs.

RDB

The registration database (RDB) is used to maintain a record of 406 MHz distress beacons that are registered in the USA. The RDB is in dBase III format, a copy of which is retained on the USMCC for realtime access. The USMCC has a background program that copies daily updates to a USMCC SQL table. A more comprehensive description of the database and procedures to update it may be found in the RDB SOPs.

LMDB

Information collected from orbitography beacons are stored in the incoming LUT 406 solutions tables. They are not processed as alerts. This information is used to monitor LUT performance. Each day, data is copied from USMCC solution files into the LUT Monitoring Database which then performs additional manipulation on the information. USA LUT tracking information is also recorded. Controller SOPs describe some special procedures related to the LMDB.

SAMS

Status and Monitoring System is used to monitor long term trends at the LUTs and USMCC. It presently is undergoing review and possible redesign.

ORBIT VECTORS

Orbit vectors are obtained daily from the Naval Bulletin Board using ProCom Plus. A DOS batch file is used to handle the retrieval. It is further described in Controller SOPs.

SATELLITE SCHEDULING

LUT tracking schedules, including the USMCC Master Schedule, are created by a separate offline process that is linked to orbit vector retrieval. It is triggered by a DOS batch file. Further information can be found in Controller SOPs.

IppDo

This is the name given to the batch file that controls off line processes.

dBeacon

This is a program that allows users to decode 406 beacons from their hexadecimal rendering. It is available to the controllers as a support program.

DAILY LOG

Each day a controller's log is created that is used to record significant events that occur during the controller's shift. It is maintained as a WordPerfect document.

MACROS

Some WordPerfect macros have been built to assist controllers in performing their duties. Where applicable, each macro is identified in controller SOPs.

SECTION 15 – REFERENCE

OVERVIEW

The USMCC interface uses a number of abbreviations, numeric codes and acronyms on its interface screens. This information is available in other, external reference material. Selected items are included in this section so that Duty Controllers will have ready access to this information in a more understandable format.

Much of this data is also available in computer tables. Some of the data is also available through hyper links to an online version of the USMCC manual. However, there is no operator screen that provides easy and rapid access to this information.

List of Tables

The tables shown below are formatted as follows: Column 1 is the abbreviation that controllers see on drop down lists. Column 2 is the numeric identifier that is used as a Source Identification and/or message address. The last column is the plain English identifier. US LUTs have an extra column that lists the unique identification number used only by USA LUTs.

Table 1	List of LUT identifiers	
Table 2	USA RCC identifiers	
Table 3	MCC identifiers	
Table 4	SPOC identifiers	

Note: SRRs use the first three digits of the Source Ids listed in these tables. USA SRRs add the one character identifier at the end of the three digits.

Proposed additions: (?)

- cross reference tables such as MID code to country name.
- satellite abbreviation to name

Table 1 – USA LUT Identifiers

USMCC ID	SOURCE ID	LUT ID	Name
AK1	3031	9999	Alaska 1
AK2	3032	10000	Alaska 2
CA1	3667	9993	California 1
CA2	3668	9994	California 2
GU1	3383	10001	Guam 1
GU2	3384	10002	Guam 2
HI1	3381	9995	Hawaii 1
HI2	3382	9996	Hawaii 2
OSE	3665	9991	Operational Support Equipment (Suitland)
PR1	3581	9992	Puerto Rico 1
PR2	3582	10003	Puerto Rico 2
SSE	3666	10004	System Support Equipment (Suitland)
TX1	3661	9997	Texas 1
TX2	3662	9998	Texas 2

Note: Foreign LUTs consist of the first three numbers of the MCC "SOURCE ID" with an additional number that indicates the specific LUT. For example, 2731 is Lut #1 from Russia. See Table 3 for a list of Source Ids for foreign MCCs.

 $Table\ 2-Most\ commonly\ used\ US\ RCC\ identifiers$

RCC Abbreviation	Msg ID	Name
CGD01	366B	USCG District #1, Boston
CGD05	366P	USCG District #5, Portsmouth
CGD07	366M	USCG District #7, Miami
CGD08	366O	USCG District #8, New Orleans
CGD09	366C	USCG District #9, Cleveland
CGD13	366E	USCG District #10, Seattle
CGD14	366H	USCG District #14, Hawaii
CGD17	366J	USCG District #17, Juno
AFRCC	366\$	USAF RCC Map
AFPRINTER	366S	USAF RCC printer
AKRCC	366A	Alaska (AF) RCC
LANTAREA	366N	Atlantic Area, New York
MARSEC	366G	West Pacific, Guam
PACAREA	366F	Pacific Area, San Francisco
PRCC	366W	Pacific Joint RCC, Honolulu
SANJN	366U	San Juan RCC, Puerto Rico
SOUTHJ	366I	South Joint RCC (Carribean)
RAMST	366R	Ramstein RCC (Other areas)
NOAARCC	366X	NOAA RCC (test)

Table 3 – MCC Identifiers

Abbreviation	Source ID	Name
ALMCC	6050	Algeria
AUMCC	5030	Australia
BRMCC	7100	Brazil
CHMCC	7250	Chile
CMC	2730	Russia (Cospas ~)
CMCC	3160	Canada
CNMCC	4120	China
FMCC	2270	France
НКМСС	4770	Hong Kong
IDMCC	5250	India
INMCC	4190	Indonesia
ITMCC	2470	Italy
JAMCC	4310	Japan
KOMCC	4400	Korea
NMCC	2570	Norway
PAMCC	4630	Pakistan
PEMCC	7600	Peru
SPMCC	2240	Spain
TAMCC	4160	Taiwan
UKMCC	2320	United Kingdom
USMCC	3660	United States
NOAAMCC		Noaa (for testing)

Italics are MCCs in the developmental stage.

Table 4 – SPOC Identifiers

Abbreviation	MSG ID	Name
ARGSP	7010	Argentina
BOLSP	7200	Bolivia
COLMSP	7300	Columbia
ECSP	7350	Equador
FALKSP	7400	Falklands
GUYSP	7500	Guyana
MEXINAVY	3450	Mexican Navy
MEXISP	3450	Mexico SPOC
PARSP	7550	Paraguay
URSP	7700	Uraguay
VENZSP	7750	Venezuela
NOAASP		Noaa (for testing)

Notes:

Canadian RCCs in Trenton, Victoria and Halifax are also listed as SPOCs for emergency backup purposes.

SPOCs in the Carribean and Central America are handled through South Joint RCC.

[Intentionally left blank]